

CLAIMS

1. Heating and air conditioning plant for motor vehicles comprising an evaporator to create cold air, a heating heat exchanger to create warm air, a mixing space to mix warm and cold air in direction of flow of an air channel system and from which the air is directed to air conditioning zones to be differently tempered over suitable air directing devices and air outlet devices, in vehicle longitudinal direction the evaporator is arranged longitudinal in the bottom region of a center console and via the air channel system is connected to the heating heat exchanger positioned above the evaporator and almost horizontal and to an air mixing chamber positioned above the evaporator and configured as a parallel-symmetric air guiding system with trapezoidal ducts to deviate the air flows for left and right air outlets above the heating heat exchanger, and a separating wall impermeable to humidity and air extending over the width of the heating heat exchanger and part of the mixing space.

2. Heating and air conditioning plant of claim 1 wherein the evaporator and the heating heat exchanger are arranged such that they are commonly inclined by an angle α to the vertical.

3. Heating and air conditioning plant of claim 2 wherein the angle α ranges from 0° to 50°.

4. Heating and air conditioning plant of claim 1 wherein main transformation axes of the evaporator and the heating heat exchanger are orthogonal to each other.

5. Heating and air conditioning plant of claim 1 wherein the evaporator and the heating heat exchanger are displaced relative to each other in vehicle longitudinal direction.

6. Heating and air conditioning plant of claim 1 wherein the center console in a foot region in the z-y plane is configured concave on both driver and front-seat passenger sides.

7. Heating and air conditioning plant of claim 1 wherein the mixing chambers are configured as two parallel-symmetric directing channels with cross-sections reducing and subsequently enlarging in flow direction.

8. Heating and air conditioning plant of claim wherein a change of the flow direction of about 90° and air flows for the left and right sides at the outlets of the parallel-symmetric air guiding system are led almost parallel to the alignment of the evaporator.

9. Heating and air conditioning plant of claim 1 wherein the parallel-symmetric air guiding system consists of two trapezoidal ducts each are connected each to the other such that the largest section area passed in each case is at the beginning and at the end of said ducts.

10. Heating and air conditioning plant of claim 1 wherein said heating and air conditioning plant is configured to function as a one-zone air conditioning unit through connection of the left and right air flaps.